

REMARKS

In the present patent application, claims 1-5, 7-18, and 20-22 are pending. Applicant has amended claims 1, 8, 9, 14 and 18 and cancelled claims 5 and 10 herein. Applicant respectfully requests reconsideration of the claims in view of following remarks.

Support for the claim amendments can be found in the specification, original claims, and figures. Accordingly, applicant submits that no new matter has been introduced by the claim amendments.

Claims 21 and 22 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The Examiner indicated that claims 21 and 22 are directed to generate a measurement signal by a sensor and lacks clarity as to how this measurement signal is generated. Applicant respectfully disagrees. In particular, the claim 21 recites in part: "a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person." Further, claim 22 recites in part: "a sensor operatively coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person.." Thus, in both claims 21 and 22, the sensor operably coupled to the plastic cord generates the measurement signal indicative of displacement of the plastic cord. Accordingly, applicant submits that claims 21 and 22 are definite. Applicant further notes that the Examiner in two prior Office Actions indicated that either (i) independent claims 21 and 22 were allowable, or (ii) dependent claims 7 and 20 from which claims 21 and 22 were developed, were allowable.

Claims 1, 6, 9 and 14 were rejected under 35 U.S.C. § 103(a) based on Ariav et al. (U.S. Patent Publication No. 2006/0087325, in view of Bowers (U.S. Patent No. 5,207,230. Applicant notes that claim 6 was cancelled in a prior response.

Referring to independent claim 1, as amended, the claim recites in part:

a plastic tube configured to be placed across a chest of the person, the plastic tube being substantially transparent to x-rays, the plastic tube not having a non-plastic member attached thereto across the chest of the person;

a plastic cord having a portion that is disposed through an interior of the plastic tube, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having another non-plastic member attached thereto; and,

a linear position sensor coupled to an end of the plastic cord, the end of the plastic cord being configured to be disposed away from the chest of the person, the linear position sensor generating a measurement signal indicative of an amount of linear displacement of the plastic cord during respiration by the person."

Referring to Ariav et al., the reference is directed to a sensor that measures a respiration or cardiac rate of a person. The Bowers reference is directed to a spiral sensor. However, neither reference provides any teaching of: "a plastic tube configured to be placed across a chest of the person, the plastic tube being substantially transparent to x-rays, the plastic tube not having a non-plastic member attached thereto across the chest of the person", as recited in claim 1 as amended. In contrast, Ariav et al. does not even disclose use of a plastic tube. Further, in contrast, Bowers utilizes "a two-sided, conductive adhesive strip 33 which can be acrylic with conductive particles such as silver-coated nickel is applied along the length of the outer surface of the transducer 30. See Bowers, column 5, lines 65-68.

Further, neither reference provides any teaching of: "a plastic cord having a portion that is disposed through an interior of the plastic tube, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having another non-plastic member attached thereto" as recited in claim 1 as amended.

Accordingly, because the combination of Ariav et al. and Bowers does not teach each and every element of independent claim 1, as amended, applicant submits that claim 1 is allowable over these references.

Referring to independent claim 9, as amended, the claim recites in part:

"disposing a plastic tube across a chest of the person, the plastic tube being substantially transparent to x-rays, the plastic tube not having a non-plastic member attached thereto;

disposing a portion of a plastic cord through an interior of the plastic tube, wherein a position sensor is coupled to an end of the plastic cord and is disposed away from the chest of the

person, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having another non-plastic member attached thereto.."

Referring to Ariav et al. and Bowers, the references alone or in combination do not provide any teaching of: "disposing a plastic tube across a chest of the person, the plastic tube being substantially transparent to x-rays, the plastic tube not having a non-plastic member attached thereto", as recited in claim 9 as amended. In contrast, Ariav et al. does not even disclose use of a plastic tube. Further, in contrast, Bowers utilizes "a two-sided, conductive adhesive strip 33 which can be acrylic with conductive particles such as silver-coated nickel is applied along the length of the outer surface of the transducer 30. See Bowers, column 5, lines 65-68.

Further, the references do not provide any teaching of: "disposing a portion of a plastic cord through an interior of the plastic tube, wherein a position sensor is coupled to an end of the plastic cord and is disposed away from the chest of the person, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having another non-plastic member attached thereto", as recited in claim 9 as amended.

Accordingly, because the combination of Ariav et al. and Bowers does not teach each and every element of independent claim 9, as amended, applicant submits that claim 9 is allowable over these references.

Referring to independent claim 14, as amended, the claim recites in part:

"a plastic cord that has a portion configured to be placed across a chest of a person lying on the tabletop, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having a non-plastic member attached thereto; and,

a linear position encoder operatively coupled to an end of the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, the end of the plastic cord and the linear position encoder being configured to be disposed away from the chest of the person outside a scanning area of the X-ray device."

Referring to Ariav et al. and Bowers, the references alone or in combination do not provide any teaching of: "a plastic cord that has a portion configured to be placed across a chest of a person lying on the tabletop, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having a non-plastic member attached thereto", as recited in claim 14 as amended.

Further, the references do not provide any teaching of: "a linear position encoder operatively coupled to an end of the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, the end of the plastic cord and the linear position encoder being configured to be disposed away from the chest of the person outside a scanning area of the X-ray device", as recited in claim 14 as amended. Ariav does disclose an accelerometer type sensor (see Fig. 4 and paragraph 0079) and a displacement-type sensor (see Fig. 3 and paragraph 0078) that measures a pressure to detect displacement. However, neither type of disclosed sensor in Ariav is a linear position encoder, as recited in claim 14 as amended.

Accordingly, because the combination of Ariav et al. and Bowers does not teach each and every element of independent claim 14 as amended, applicant submits that claim 14 is allowable over these references.

Claims 4, 5, 10, 11, 17 and 18 were rejected under 35 U.S.C. § 103(a) based on Ariav et al. in view of Bowers, and in further view of Zomer (U.S. Patent No. 5,235,989).

Claim 4 depends from claim 1 and thus includes all of the limitations of claim 1 as amended. Ariav et al., Bowers, and Zomer do not provide any teaching of: "a plastic tube configured to be placed across a chest of the person, the plastic tube being substantially transparent to x-rays, the plastic tube not having a non-plastic member attached thereto across the chest of the person", as recited in claim 1 as amended. Further, the references do not provide any teaching of: "a plastic cord having a portion that is disposed through an interior of the plastic tube, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having another non-plastic member attached thereto" as recited in claim 1 as amended.

Accordingly, because the combination of Ariav et al., Bowers and Zomer does not teach each and every element of claim 1, and claim 4 which depends from claim 1, applicant submits that claim 4 is allowable over these references.

Claim 11 depends from claim 9 and thus includes all of the limitations of claim 9 as amended. Ariav et al., Bowers, and Zomer do not provide any teaching of: "disposing a plastic tube across a chest of the person, the plastic tube being substantially transparent to x-rays, the plastic tube not having a non-plastic member attached thereto", as recited in claim 9 as amended. Further, the references do not provide any teaching of: "disposing a portion of a plastic cord through an interior of the plastic tube, wherein a position sensor is coupled to an end of the plastic cord and is disposed away from the chest of the person, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having another non-plastic member attached thereto", as recited in claim 9 as amended.

Accordingly, because the combination of Ariav et al., Bowers and Zomer does not teach each and every element of claim 9, and claim 11 which depends from claim 9, applicant submits that claim 11 is allowable over these references.

Claims 17 and 18 depend from claim 14 and thus include all of the limitations of claim 14 as amended. Ariav et al., Bowers, and Zomer do not provide any teaching of: "a plastic cord that has a portion configured to be placed across a chest of a person lying on the tabletop, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having a non-plastic member attached thereto" as recited in claim 14 as amended. Further, the references do not provide any teaching of: "a linear position encoder operatively coupled to an end of the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, the end of the plastic cord and the linear position encoder being configured to be disposed away from the chest of the person outside a scanning area of the X-ray device", as recited in claim 14 as amended.

Accordingly, because the combination of Ariav et al., Bowers and Zomer does not teach each and every element of claim 14, and claims 17 and 18 which depend from claim 14, applicant submits that claims 17 and 18 are allowable over these references.

Claims 2 and 3 were rejected under 35 U.S.C. § 103(a) based on Ariav et al. in view of Bowers and further in view of Rasche et al. (U.S. Patent No. 6,865,248), and in further view of Sontag et al. (U.S. Patent No. 6,298,260).

Claims 2 and 3 depend from claim 1 and thus include all of the limitations of claim 1 as amended. Ariav et al., Bowers, Rasche et al. and Sontag et al. do not provide any teaching of: "a plastic tube configured to be placed across a chest of the person, the plastic tube being substantially transparent to x-rays, the plastic tube not having a non-plastic member attached thereto across the chest of the person", as recited in claim 1 as amended. Further, the references do not provide any teaching of: "a plastic cord having a portion that is disposed through an interior of the plastic tube, the plastic cord being substantially transparent to x-rays, the portion of the plastic cord not having another non-plastic member attached thereto", as recited in claim 1 as amended.


Accordingly, because the combination of Ariav et al., Bowers, Rasche et al. and Sontag et al. does not teach each and every element of claim 1, and claims 2 and 3 which depend from claim 1, applicant submits that claims 2 and 3 are allowable over these references.

In view of the foregoing remarks, applicant respectfully submits that the instant application is in condition for allowance. Such action is most earnestly solicited. If for any reason the Examiner feels that consultation with applicant's attorney would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below for an interview.

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If there are any charges due with respect to this response document or otherwise, please charge them to Deposit Account No. 07-0845.

Respectfully Submitted,
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